WARRANTY CARD

Please complete and return the form below to submit your Warranty. For more information on our Warranty and Return Policy, please go to our web site or contact our customer service.

*Model No.: *Serial Number:

*Purchase Date: *Dealer ID:

*City/State *Zip Code:

*First Name: *Last Name:

*Address 1:

*Address 2:

*City: *State: *Zip Code:

*Phone: Email:

**Indicates required field*

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M6 SERIES CARBINES
OPERATOR'S MANUAL

DO NOT OPERATE YOUR RIFLE UNTIL YOU HAVE READ AND UNDERSTAND THIS MANUAL.

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HISTORY

LWRC International, LLC of Cambridge, Maryland, acquired the assets of LWRC, Inc. of Springfield, Virginia, in April 2008. During the previous decade, LWRC Inc. was engaged primarily in research and development activities that concentrated on eliminating the inherent shortcomings found in the M16/M4 direct impingement systems. These efforts have resulted in LWRC International's family of M6 short-stroke, gas-piston operated rifles and carbines. The short-stroke, gas-piston system improves on the direct-impingement system by operating more cleanly, more quietly, and more accurately, and it does so with greater reliability and longer service life. Hammer forging barrel technology, and high technology surface conversion techniques will make your LWRCI M6 more accurate, more reliable, and last longer than any other rifle you have owned.

MISSION

Our mission at LWRC International, LLC is to provide absolutely reliable, accurate, and durable tools for the war-fighter, law enforcement officer and civilian shooter. Through innovative design, disciplined engineering, and the use of state-of-the-art manufacturing processes and materials technologies, our products are tailored to fulfill the mission of the end user. Our goal is to make products that perform better, last longer, require less user maintenance, and provide best value to the user. Utilizing our proprietary technology, balanced with assured quality, LWRC International offers our customers the best value and the best product.

MANAGEMENT TEAM

The Senior Management team of LWRC International is made up of proven Executives who collectively have more than 100 years in managing high performance Defense Companies. The engineering team is made up of dedicated professionals who have been recognized for developing LWRCI's patented self-regulating short-stroke, gas-piston that eliminates the inherent disadvantages of the M4-Gas Impingement System currently in use by the military. The gas-piston system allows the weapon to operate cleaner and cooler and makes the rifle more reliable. Advancements in barrel design and coatings have led to an extended barrel service of over 20,000 rounds.

FACILITIES

LWRC International, LLC operates out of three facilities, which total over 250,000 square feet, and include over 50 state-of-the-art CNC machine centers, laser cutting machines, screw machines, robotic welding, and MIL-Spec painting, all of which comply to ISO 9001 International Standards. The Cambridge, MD facility also ensures compliance with AS9100 Configuration Management for all standard and research and development activities. Moreover, resident QAR representatives are located in our Salisbury, Maryland, location.

DO NOT OPERATE ANY LWRCI RIFLE PRIOR TO READING THIS MANUAL

This manual contains important safety information that will allow you to safely operate the M6 Series Rifle. Read the entire manual prior to operating the weapon. Follow all safety rules and operator instructions contained herein. Ensure this manual remains with this weapon.

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1.1 About This Manual:

The purpose of this manual is to provide instruction on the safe operation, detail maintenance procedures and provide general information for the M6 Series of Carbines and Rifles. Thoroughly read this manual prior to operating your weapon and follow all safety rules and procedures outlined within. Ensure you also observe all Local, State, and Federal Laws when possessing, transporting, or operating your LWRC International, LLC Carbine.

By following the operating and maintenance procedures outlined in this manual you will ensure proper and safe function of the firearm.

1.2 Warnings and Safety Data:

WARNING! ALWAYS KEEP THE MUZZLE POINTED IN A SAFE DIRECTION WHEN LOADING, UNLOADING, CLEARING OR CHARGING THE WEAPON.

WARNING! WHENEVER THE WEAPON IS SUBMERSED IN WATER IMMEDIATELY SHAKE THE WEAPON, SWINGING THE MUZZLE DOWNWARD VIGOROUSLY, PRIOR TO FIRING.

WARNING! NEVER FIRE THE WEAPON WHILE SUBMERSED.

WARNING! THE GAS REGULATOR KNOB AND FRONT SIGHT LATCH MAY BECOME HOT ENOUGH TO CAUSE INJURY DURING FIRING. TAKE CARE WHEN CHANGING GAS REGULATOR SETTINGS OR DEPLOYING AND STOWING THE FRONT SIGHT.

WARNING! ONLY USE AUTHORIZED AMMUNITION THAT IS OF THE CORRECT CALIBER AND IN SERVICEABLE CONDITION. DO NOT LUBRICATE AMMUNITION.

WARNING! WHEN USING A BLANK FIRING ADAPTER, ENSURE ALL MAGAZINES TO BE FIRED AND EVERY ROUND IN THEM IS INDEED BLANK AMMUNITION PRIOR TO USING A BFA. FIRING A LIVE ROUND WITH THE BFA IN PLACE COULD CAUSE INJURY OR DEATH!

WARNING! WHEN FIRING, IF YOU HAVE A DRASTIC REDUCTION IN RECOIL AND THE WEAPON DID NOT SOUND RIGHT, UNLOAD TO RANGE SAFE, FIELD DISASSEMBLE AND INSPECT THE BORE TO ENSURE THERE IS NO OBSTRUCTION.

WARNING! NEVER FIRE THE WEAPON WITHOUT THE CAM PIN INSTALLED. THIS COULD RESULT IN INJURY OR DEATH.

1.3 Safety Information and Procedures:

The Four Safety Rules

Treat every weapon as if it were loaded at all times.
Never point your weapon at anything you don't intend to shoot.
Keep your finger straight and off the trigger until you intend to fire.
Keep your weapon on safe until you intend to shoot.

1.4 General Safety Procedures:

Whenever handling any weapon, clear it as soon as you pick the weapon up (refer to clearing procedures).

Whenever handing over your weapon to another person, clear the weapon first and hand it over with the bolt locked to the rear by the bolt catch. When receiving a weapon from another person insist that they clear it and lock the bolt to the rear before accepting the weapon. Check the chamber to ensure the weapon is clear when you accept the weapon.

Always ensure you are firing the correct caliber ammunition through your weapon. To ensure proper function and safety LWRCI recommends using only factory loaded ammunition that complies with the Sporting Arms and Ammunition Manufacturer's Institute (SAAMI), NATO, or Ammo loaded to U.S. Military specifications for the weapon. LWRC doesn't guarantee your weapon's safety or performance when utilizing re-loaded or surplus ammunition.

Check your weapon's bore to ensure it is free from obstructions before firing. In the event that the weapon is dropped or the muzzle touches the ground, unload and ensure the weapons bore is free from obstruction.

Prior to firing your weapon, know your intended target and what lies beyond. Ensure that there is an adequate backstop or open space free from people or any other unintended targets prior to shooting. Never shoot at water or hard objects as ricochets will occur and pose a safety hazard to property, people in the vicinity, or the shooter.

Be aware of where your weapon's muzzle is pointed at all times and NEVER flag (point your muzzle at) any person or unintended target regardless of the status of the weapon. When not being carried on the range your weapon should be placed in Range Safe condition with the muzzle facing down range ejection port up, the bolt locked to the rear and selector on safe. No weapon should be handled regardless of status while people are down range. Observe all rules of the range you are firing on.

Weapons should be stored unloaded, and in a locked case or other secure area.

Always use hearing and eye protection when shooting any firearm.

Be familiar with your weapon and its features, controls and operating procedures prior to shooting. Completely read this manual prior to operating your weapon.

1.5 Weapon's Conditions

Condition 4: Bolt forward on an empty chamber, ejection port cover closed, no magazine inserted, and selector lever on safe.

Condition 3: Bolt forward on an empty chamber, ejection port cover closed, magazine inserted, and selector lever on safe.

Condition 2: Not applicable.

Condition 1: Bolt forward with a round chambered, ejection port cover closed, magazine inserted, and selector lever on safe.

Range Safe: Bolt locked to the rear, ejection port cover open, no magazine inserted, and selector lever on safe.

CLEARING YOUR WEAPON – UNLOADING

1. Ensure the muzzle remains pointed in a safe direction.
2. Remove the magazine (if present) by depressing the magazine release and ejecting the magazine.
3. Depress the bottom portion of the bolt catch and hold.
4. Grasp the charging handle and, ensuring that you are depressing the charging handle latch, pull it firmly to the rear.
5. Release the bolt catch and push the charging handle forward until it locks back into the upper receiver.
6. Visually inspect the chamber to ensure there are no rounds or shell casings present (in low light conditions it may be necessary to physically inspect the chamber).
7. Once you have determined the weapon to be clear of ammunition depress the top portion of the bolt catch to send the bolt carrier forward.
8. Close the ejection port cover and ensure the selector lever is on safe.

Do not depend on the fact that no chambered round was ejected on clearing. You can still have a live round in the chamber that did not extract/eject because your extractor was broken, or the case rim was ripped off by the extractor. VISUALLY inspect the chamber to ensure it is clear.

1.6 Characteristics of the M6 Series of Rifles

The M6 is an Incrementally Evolved version of the proven M4 carbine. It is a lightweight short stroke gas piston operated, air cooled, magazine fed, semi-automatic carbine (select fire available to Law Enforcement and Military). The weapon operated by a proprietary Short Stroke, Self-Regulating, Gas Piston Operating System. Unlike traditional direct impingement gas operating systems the gas piston system in your rifle harnesses the energy of gasses tapped from the barrel to operate the weapon. The M6 does not vent hot, carbon laden gasses into the action of the rifle or the rifle's upper receiver. Once sufficient energy is produced to cycle the weapon all excess gasses are vented below the rail system or hand guards harmlessly. The kinetic energy is transferred from the piston cup to the intermediate rod and operating rod to the bolt carrier key. This will save you many hours of maintenance as the system is inherently clean. You will find the system requires less lubrication as the lubrication does not burn off.

Figure 1: Upper Assy. M6A1

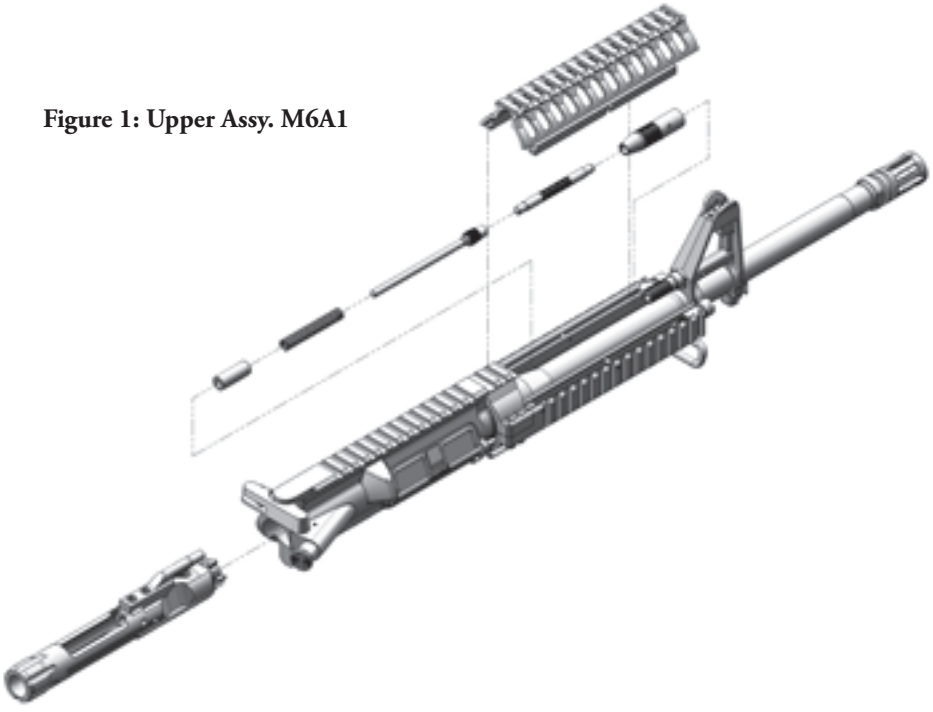


Figure 2: Upper Assy. M6A2

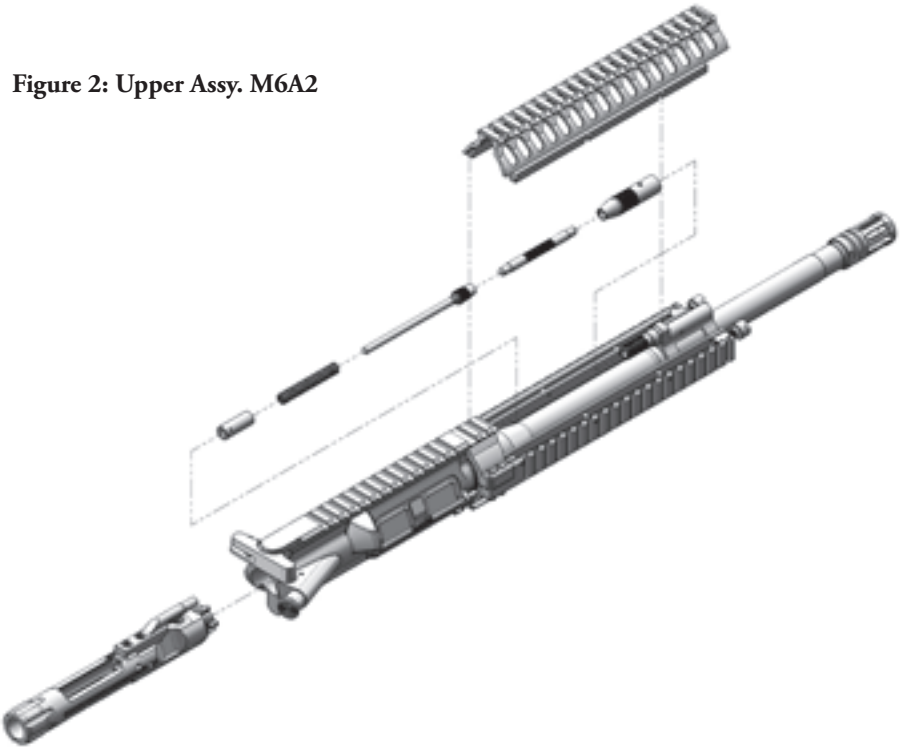
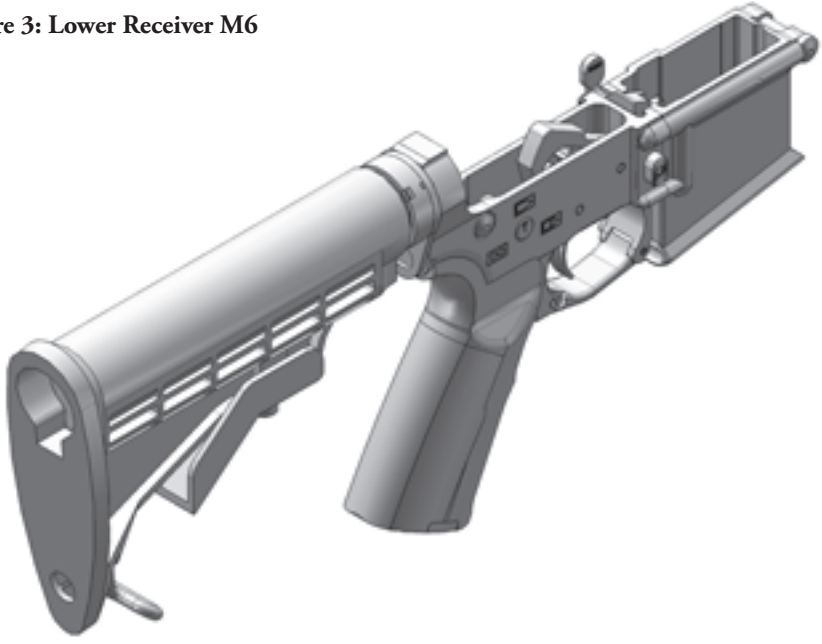


Figure 3: Lower Receiver M6



1.7 System Data:

Weight (unloaded w/o accessories)	7.76 pounds
Length (stock collapsed)	32”
Barrel Length	14.5”
Rifling	Six Lands & Grooves 1:7” Right Hand Twist
Trigger Pull (semi)	5.05 - 8.0 lbs
Trigger Pull (auto)	5.05 – 8.0 lbs
Caliber	5.56 x 45mm NATO
Muzzle Velocity (M855)	2938 fps
Sustained rate of fire	50 rounds per minute
Rapid rate of fire	120 rounds per minute
Cyclic rate of fire	700 +/- 100 FPS (dependant on gas setting and ammunition)
Point Target Max Range	600 meters
Area Target Max Range	800 meters

Operator Controls:

1. Selector Lever (ambidextrous)
2. Trigger
3. Charging Handle
4. Magazine Release (ambidextrous)
5. Bolt Catch
6. Gas Regulator Knob
7. Front Sight Latch
8. Stock Adjustment Latch
9. Top Rail Retaining Screw (2x)
10. Storage Compartment (4x)
11. Ejection Port Cover
12. Sling Attachment Point
13. Rear Sight Windage Knob

1.8 Controls

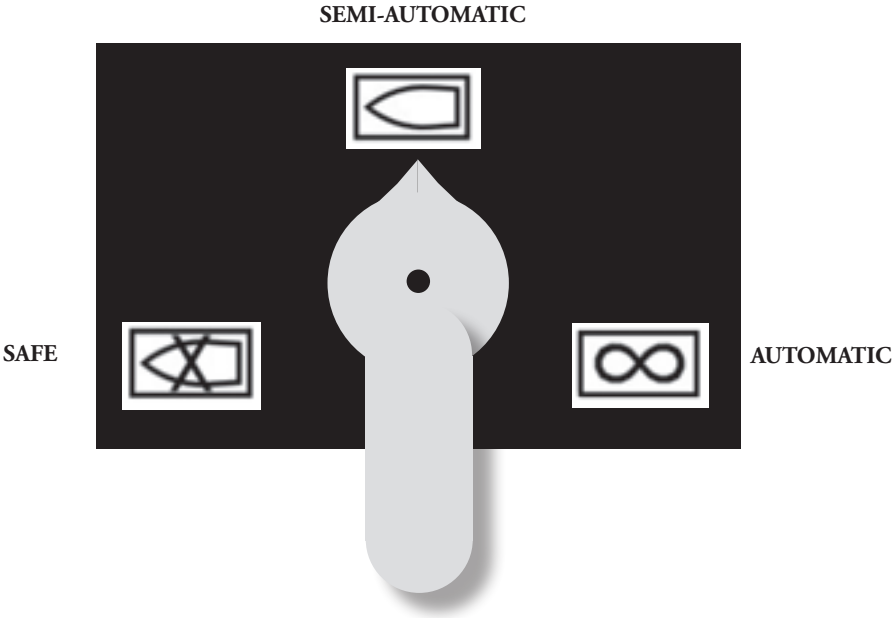
Manual Safety - The M6 is equipped with a manual safety that is activated by the selector levers. There are ambidextrous selector levels on either side of the lower receiver. Placing the weapon on safe locks the entire fire control mechanism preventing the trigger from being actuated. Like the M4/M16, the safety only engages when the hammer is in the cocked position.

Fire Control Group (FCG) Selector - The M6's fire control selector settings are in the exact same positions as on the M4/M16 series of weapons. Having the selector settings in these same positions allows the user familiar with the M4/M16 instant familiarity with the M6 and prevents unintended discharge or selecting an unintended setting due to muscle memory. The position of the selector allows the change of a fire control setting with the shooters dominant hand without removing it from the pistol grip. There is a pointer on the selector that points to the mode of fire marked on the receiver. These are marked:

SAFE

SEMI-AUTOMATIC

AUTOMATIC (SYMBOL FOR INFINITY)



Selector Markings

Trigger – The trigger is a single stage trigger set between 5.5-9 lbs in semi-auto and automatic auto-setting.

Charging Handle – The M6 is equipped with a non-reciprocating top charging handle identical to that of the M4/M16 allowing the user to charge the weapon with either his/her dominant or non-dominant hand. The charging handle is grasped with the index and middle fingers on either side. On pulling, the charging handle latch will automatically disengage from the receiver. Always pull the charging handle completely to the rear as far as it will go and let go of it. Never ride the charging handle forward.

Forward Assist – The forward assist is a button located on the right side of the upper receiver of your M6. The intended function of the forward assist is to force the bolt closed (locked) in case the weapon fails to go into battery. The forward assist should only be employed in an emergency situation. Forcing a round to chamber can cause a worse failure, injury and possible damage to the rifle depending on the reason the round failed to chamber. It is always safer to unload the cartridge that failed to feed and inspect it for damage and dispose of it. The forward assist may be tapped after manually loading the rifle to ensure the bolt is in battery. The forward assist may also be used after "press checking" the rifle to ensure it is loaded.

Bolt Catch – The bolt catch can be manually activated to hold the bolt to the rear. The bolt catch is positioned is positioned on the left hand side of the lower receiver. To apply the bolt catch, the user retracts the bolt as far as it will go to the rear using the charging handle and pushes the lower portion of the bolt catch until it engages. The bolt catch will automatically engage when an empty magazine is in the weapon, and the user retracts the bolt. To disengage the bolt catch, apply pressure to the serrated upper half of the bolt catch. This will allow the bolt carrier to travel forward into battery.

CAUTION: Disengaging the bolt catch with a loaded magazine in place will load the weapon.

Front Sight Latch (sight lock button, M6A3 only). The front sight latch unlocks the front sight from the folding position allowing it to be deployed. The same button allows you to unlock it from the deployed position to fold it and lock it down.

Rear Sight Adjustment Controls – Refer to manufacturer's instructions on adjusting your particular rear sight.

Magazine Release – The magazine release is on the right side of the lower receiver in alignment with your trigger finger. Pressing the magazine release will allow the magazine to drop free of the weapon.

CAUTION: Removing the magazine does not make the weapon safe; refer to clearing instructions to remove the live round from the chamber. All M6 carbines will fire with the magazine removed.

Stock Adjustment Latch – Depending on the configuration of your rifle, pulling down on the rear of the stock adjustment latch (E-Mod) or depressing the stock latch (CTR or MOE) allows the stock to telescope or collapse to one of six positions allowing the user to configure the length of pull.

Top Retaining Screws – These are captured screws (they will not come out when screwed all the way out) that allow the user to remove his top rail for access to the gas piston and barrel of the weapon.

Ejection Port Cover – The user can manually close the cover to prevent dirt and debris from entering the action of the weapon. The cover opens automatically on firing or cycling the action.

2.0 Cycle of Operation

The cycle of operation begins with a Condition 1 weapon. At the beginning of the cycle of operation the weapon is said to be "in battery" meaning all recoiling components are forward and the bolt is locked into the barrel extension.

The cycle of operation in the semi-automatic mode:

Firing- By depressing the trigger the sear is disengaged from the hammer allowing it to be driven by the hammer spring to strike the firing pin.
The firing pin strikes the primer, firing the chambered round.

Unlocking- Propellant gasses are tapped off at the gas port and travel trough the gas block to the nozzle. Exiting the nozzle the gas drives the piston cup back from the nozzle in turn driving the intermediate rod and operating rod to strike the carrier key. Total travel of the piston system is approximately 0.6 inches.
This initiates the rearward movement (recoil stroke) of the bolt carrier and bolt. As the bolt carrier travels to the rear the bolt rotates thus unlocking from the barrel extension.

Extracting- As the bolt and bolt carrier continue through the recoil stroke the expended cartridge is drawn from the chamber by the extractor.

Ejecting- Once the expended cartridge is clear of the chamber it is ejected from the weapon by the spring loaded ejector.

Cocking- As the bolt carrier group continues to the rear it cocks the hammer which is initially retained by the disconnector. As the shooter disengages the trigger, the disconnector releases the hammer allowing it to be captured by the trigger (resets).

Feeding- The recoil stroke concludes when the buffer halts the bolt carrier group. The recoil spring, which is compressed during the recoil stroke, drives the bolt carrier group forward commencing the counter recoil stroke. As the bolt carrier returns forward the next round is stripped from the magazine and directed into the chamber by the feed ramps.

Chambering- As the bolt carrier group continues the counter recoil stroke the round is seated in the chamber.

Locking- As the bolt carrier group completes the counter recoil stroke the bolt rotates, locking into the barrel extension. The bolt carrier group is now back in battery.

Cycle of Operation in the Automatic Mode:

Automatic versions of the M6 series of weapons are only available to Military and Law Enforcement Agencies. When the weapon is to be fired, the user can rapidly select either Automatic or Semi-Automatic modes of operation. When the user selects automatic, the following cycle of operation occurs:

Firing- By depressing the trigger the trigger engagement is disengaged from the hammer sear allowing it to be driven by the hammer spring to strike the firing pin. The firing pin strikes the primer, firing the chambered round.

Unlocking- Propellant gasses are tapped off at the gas port and travel trough the gas block to the nozzle. Exiting the nozzle gas drives the piston cup back from the nozzle in turn driving the intermediate rod and operating rod to strike the carrier key (total travel of the piston system is approximately 0.6 inches. This initiates the rearward movement (recoil stroke) of the bolt carrier and bolt. As the bolt carrier travels to the rear the bolt is rotated unlocking from the barrel extension.

Extracting- As the bolt and bolt carrier continue in the recoil stroke the expended cartridge is drawn from the chamber by the extractor.

Ejecting- Once the expended cartridge is clear of the chamber it is ejected from the weapon by the spring loaded ejector.

Cocking- As the bolt carrier group continues to the rear it cocks the hammer which is retained by the auto sear. Concurrently the rear of the bolt carrier will trip the auto sear releasing the hammer and firing the round. When the trigger is depressed and held, the weapon will cycle continuously through the firing sequence until the trigger is released or the magazine is depleted.
When the user releases the trigger, the hammer is caught by the hammer/ trigger engagement surface and does not allow the weapon to fire again until the trigger is pulled.

2.1 – Pre-Fire Function Test

The user should always complete a pre-fire function test of the action and fire control group before using the weapon and any time the weapon has been disassembled and reassembled.

Semi-Automatic Mode

1. Ensure weapon is clear and in Condition 4 prior to performing functions check.

2. Insert an empty magazine fully into the magazine well and pull downward. The magazine should remain locked into the magazine well.

3. Grasp the charging handle and pull it firmly to the rear. The bolt carrier should lock to the rear. Return the charging handle to its forward and locked position by pushing it forward.

4. Depress the magazine release. The magazine should eject from the magazine well and the bolt carrier should remain locked to the rear.

5. Depress the top serrated portion of the bolt catch. The bolt carrier should spring fully forward and lock into battery.

6. With the selector lever on "SAFE" depress the trigger. The hammer should not fall.

7. Rotate the selector lever to "SEMI" and depress the trigger. The hammer should fall.

8. Charge the weapon by grasping the charging handle, pulling it firmly to the rear and releasing. Depress and hold the trigger. The hammer should fall.

9. Continue holding the trigger while charging the weapon again. Release the trigger and you should hear a click as the disconnector disengages. The hammer should remain cocked.

Automatic Mode

1. Place the selector lever on "AUTO" Depress and hold the trigger. The hammer should fall.

2. Continue holding the trigger and charge the weapon 2-3 times. Each time the bolt should go forward and the hammer should fall. Release the trigger.

This completes the functions check. Make weapon Condition 4.

2.2 Pre-Fire Inspection (PFI)

Perform the following inspection prior to each firing session. Start your PFI with a Condition 4 weapon.

1. Break your weapon down "shotgun style" by pulling out the rear take down pin and rotating the lower receiver down from the upper receiver.

2. Remove the bolt and bolt carrier by pulling the charging handle back approximately one inch and grasping the rear of the bolt and pulling it to the rear and down.

3. Inspect the bolt and bolt carrier ensuring the following; the bolt cam pin is correctly installed with the arrow facing forward; if applicable, the firing pin retainer is fully seated in its hole. Ensure the firing pin hole is unobstructed and the firing pin is properly installed (tap the bottom of the bolt carrier firmly against the palm of your hand the firing pin should stay in place).

4. Visually inspect the bore of the weapon to ensure it is unobstructed (in low light conditions physically inspect the bore by passing a cleaning rod through it).

5. Re-assemble the weapon by pulling the charging handle half way back, ensure the bolt is extended by pulling bolt head firmly away from the carrier, place the carrier key in the slot in the bottom of the charging handle and slide the bolt carrier group fully forward into the upper receiver assembly. Rotate the lower receiver back up to the upper receiver and press in the take down pin.

6. Inspect the weapon's magazines for the following: Ensure the magazines clean and not dented (particularly the feed lips). Ensure the magazine follower move freely within the magazine body and returns under its own spring tension without binding. Do not oil or otherwise lubricate magazines. Only use magazines specifically designed to be equivalent to the US military / STANAG 5.56 rifle magazine identified by NSNs 1005-00-921-5004 or 1005-01-520-5992 or magazines supplied by LWRCI. LWRCI suggests MagPul P-Mags for optimum function and performance.

7. Inspect the ammunition prior to firing. Ensure ammunition is factory manufactured in compliance with SAAMI and or U.S. MIL-Spec/STANAG specifications. Ensure ammunition is the correct caliber for the weapon. Ensure ammunition is clean. Do not oil or otherwise lubricate ammunition. Do not overload magazines.

8. Put the weapon in Condition 4 or Range Safe status.

2.3 Loading from Condition 4 Weapon

Insert a loaded magazine firmly into the magazine well.

Ensure the magazine is fully seated by tugging on it.

Charge the weapon by firmly pulling the charging handle to the rear and releasing it ("slingshot" method).

Rotate the selector to "SAFE". If not immediately firing the weapon close the ejection port cover.

2.4 Firing Semi-Automatic Mode

Starting with a Condition 1 weapon:

Acquire and aim at target.

Place selector on "FIRE."

Depress trigger with a squeezing motion of the strong hand index finger to fire individual shots.

Place selector on "SAFE."

Search and assess for threats or targets.

2.5 Reloading Semi-Automatic Mode

The bolt carrier assembly locks to the rear after the last round of the magazine is fired.

Place the weapon on "SAFE."

With the strong (firing) hand depress the magazine release to eject the empty magazine. Simultaneously with the weak (non-firing) hand retrieve a loaded magazine.

Firmly seat the magazine into the magazine well and tug to ensure it is seated.

Depress the bolt catch with the weak hand.

Search and assess.

2.6 Firing in Automatic Mode from a Condition 1 Weapon

Acquire and aim at target.

Place selector on "AUTO."

Depress trigger with a squeezing motion of the strong hand index finger to fire each 3-5 round burst. Release trigger to discontinue burst.

Place selector on "SAFE."

Search and assess.

2.7 Immediate and Remedial Actions

Immediate action is defined as the prompt action taken by the operator to reduce a stoppage without investigating the cause. A stoppage is defined as any interruption in the cycle of operation.

1. Maintain the weapon pointed down range.
2. Attempt to place the weapon on "SAFE."
3. Ensure the magazine is fully seated.
4. Pull the charging handle to the rear observing for ejection.
5. If the weapon ejected a casing or round release charging handle, sight in and continue engaging the target.
6. If the weapon did not eject a casing or live round apply remedial action.

Remedial action is defined as the actions taken by the operator to remedy a malfunction.
A malfunction is defined as a failure of the weapon to operate as designed.

1. Lock the bolt to the rear and place the weapon on "SAFE."
2. Eject the magazine.
3. Inspect the chamber to ensure there are no remaining casings or rounds.
4. On the M6A3, ensure the gas regulator is set to the appropriate setting.
5. Inspect the magazine to ensure that it is free of debris and the ammunition is properly loaded.
6. Make a Condition 1 weapon and continue the mission.

2.8 Unloading

Refer to Section 1.5 for unloading procedure.

3.0 Disassembly (Field Strip)

Frequency: The weapon should be disassembled to its major groups and assemblies when conducting routine operator level maintenance. For convenience the upper receiver can remain connected to the lower receiver (weapon broken down "shotgun style") during routine operator level maintenance.

1. Clear the weapon (refer to Section 1.5 of this manual) and ensure the weapon is Condition 4.
2. Pull out the rear take down pin by pushing from the right side of the receiver to start the pin then pull from the left.
3. Rotate the lower receiver downward 90 degrees to the upper receiver.

4. Remove the bolt carrier assembly by pulling back half way on the charging handle then pull backwards and down on the bolt carrier assembly.
5. Remove the charging handle by pulling to the rear then downward. Make note of where the lugs on the forward part of the charging handle mate with the recess inside the upper receiver for re-assembly.
6. Remove the buffer and drive spring by depressing the buffer detent and pulling the buffer and spring from the lower receiver. Separate the buffer and spring. The weapon is now field stripped.

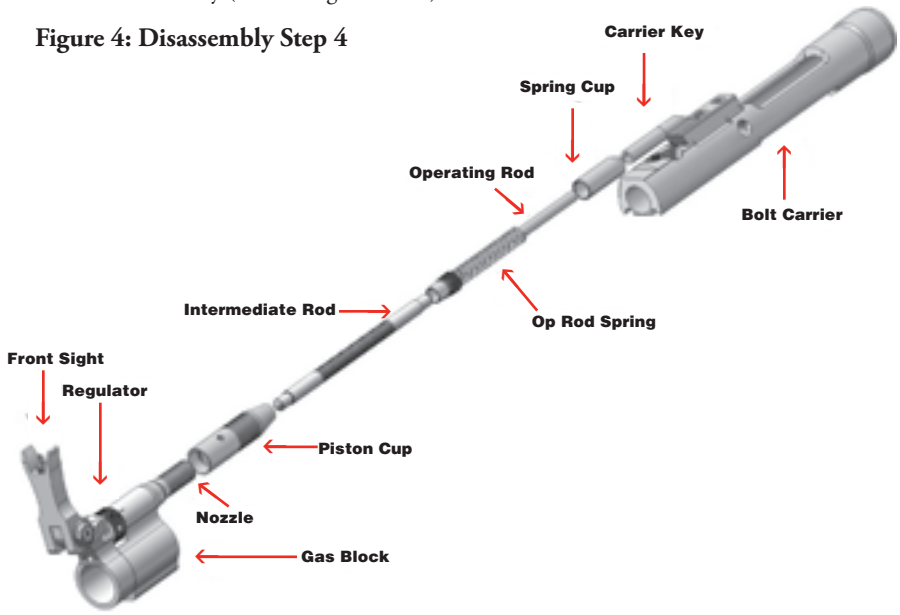
3.1 Detailed Disassembly – (Figures 4 through 12)

1. This level of disassembly is for detailed operator level maintenance of the M6 Series. Take care not to lose small parts. Further disassembly is not required for operator authorized maintenance and should only be performed by higher echelon maintenance personnel.
2. Clear and field strip the weapon by following the instructions in the previous section.
3. Remove the firing pin retaining pin from the bolt carrier turn the carrier so the bolt is facing upward and tap against your palm to remove the firing pin.
4. Ensure the bolt is retracted into the bolt carrier and rotate the bolt cam-pin 90 degrees counter clockwise. Pull to remove the bolt cam pin and pull the bolt out of the bolt carrier.
5. Utilize the firing pin to push the extractor pin and start it out of the bolt. Grasp the pin from the opposite side and remove it. Turn the bolt over and tap the extractor out into your palm.
6. Pull out the forward take-down pin to its stop by pushing from the left side of the receiver to start the pin then pull from the right. Separate the upper and lower receiver.
7. Remove the upper rail by loosening the two captive tensioning screws and pushing the upper rail forward then lift up.

   (NOTE: The two rail tensioning screws are captive and are not supposed to come free from the lower portion of the rail system.)
8. To disassemble the piston components grasp the front of the operating rod and pull firmly to the rear compressing the piston spring. Ensure you pull it dead straight back into the receiver or it will bind. The front of the intermediate rod will disengage from the piston cup. Lift out the front of the intermediate rod. Once the intermediate rod

is free pull the operating rod, operating rod spring and operating rod spring cup forward then away from the receiver. Separate the operating rod, operating rod spring and operating rod spring cup. Pull the piston cup to the rear off of the nozzle. This completes detailed disassembly (refer to Figures 4- 12).

Figure 4: Disassembly Step 4



(NOTE: If disassembling only the gas piston components on an otherwise assembled rifle, lock the bolt to the rear while disassembling or assembling the gas piston components)

Figure 5: Disassembly Step 5

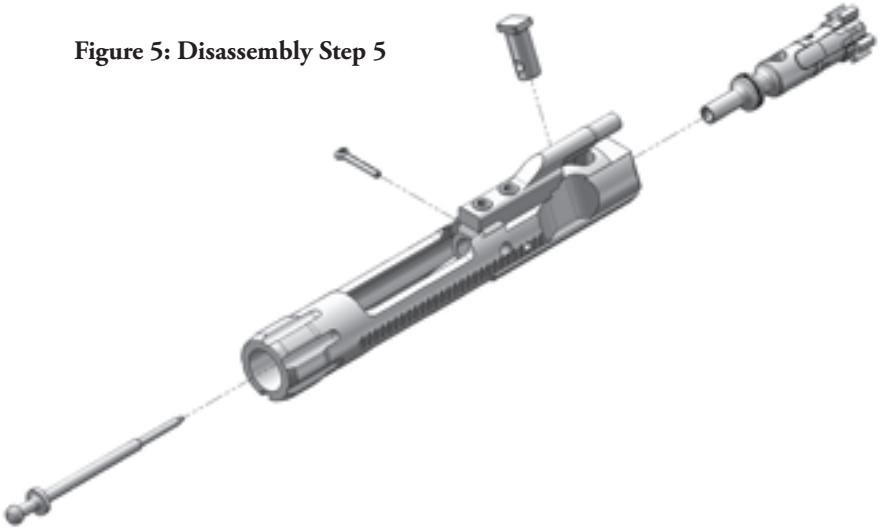


Figure 6: Disassembly Step 6

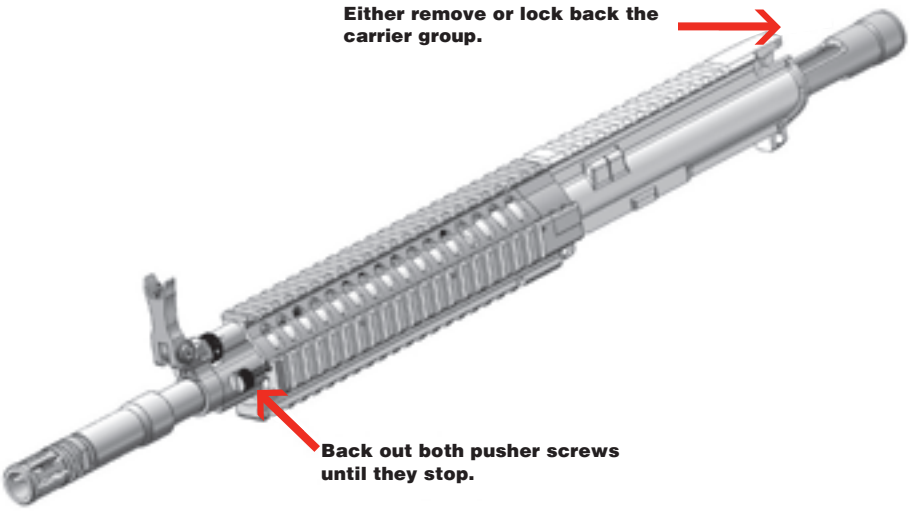


Figure 7: Disassembly Step 7

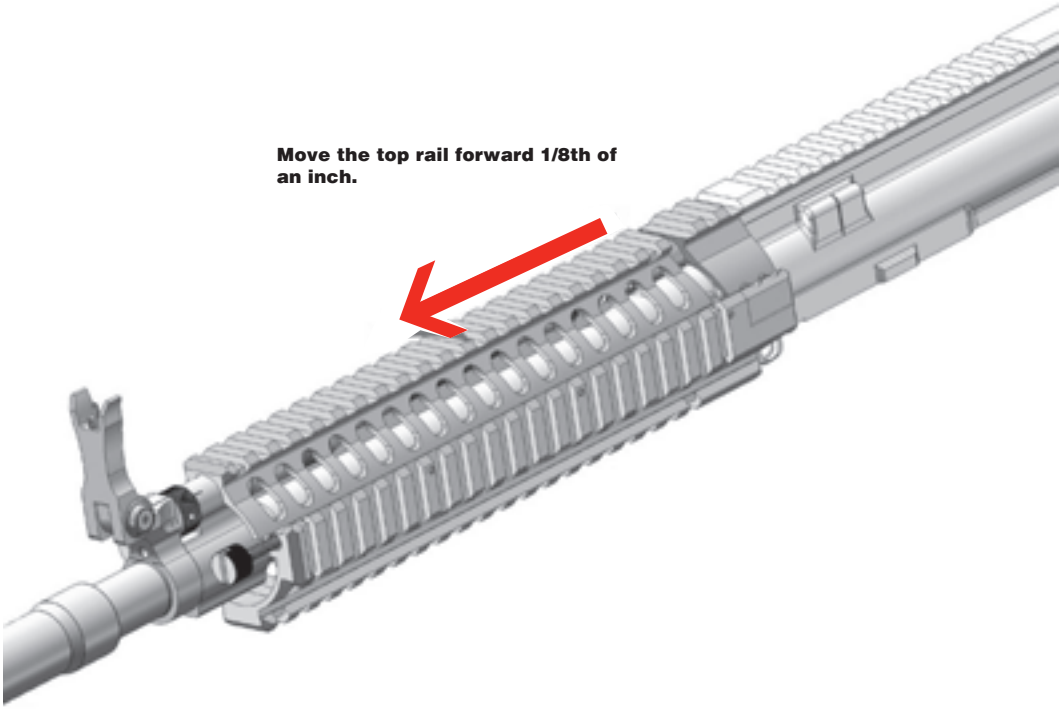


Figure 8: Disassembly Step 8

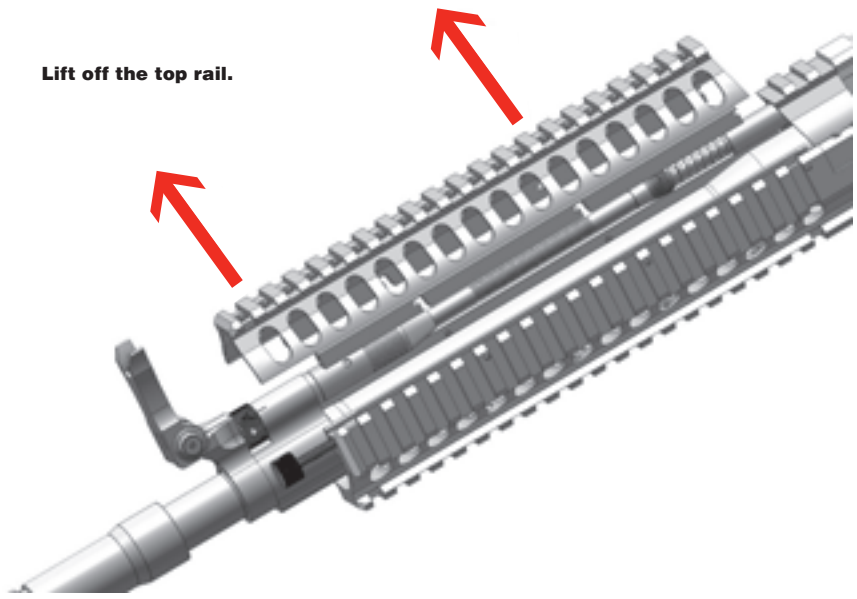


Figure 9: Disassembly Step 9

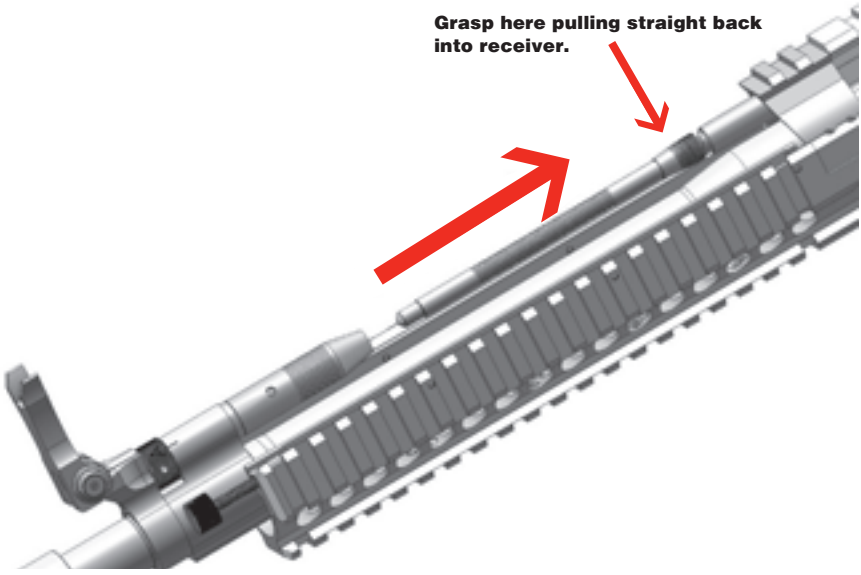


Figure 10: Disassembly Step 10

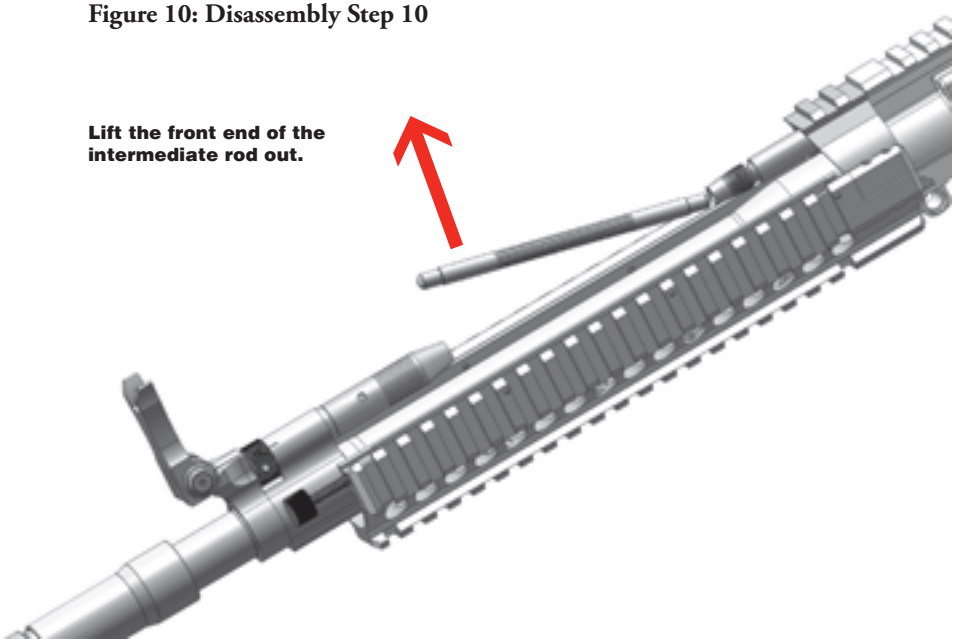


Figure 11: Disassembly Step 11

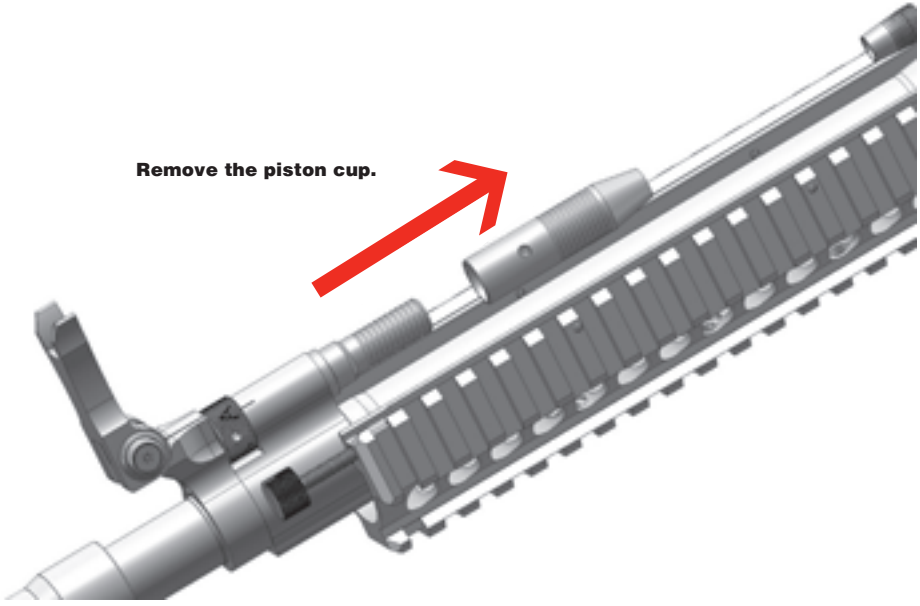
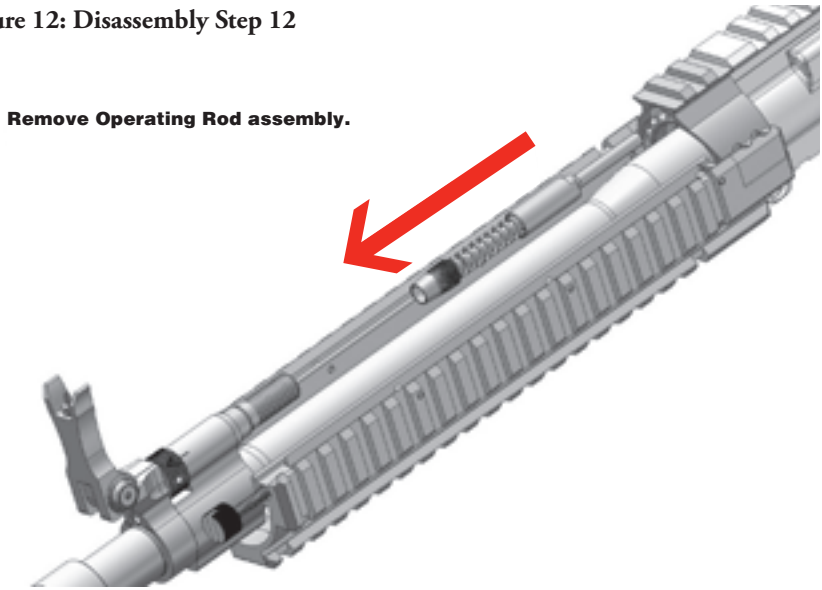


Figure 12: Disassembly Step 12



3.2 Assembly

Assembly of the M6 Series is accomplished by reversing the disassembly steps. During reassembly take note of the following:

1. When reinstalling the operating rod, operating rod spring and operating rod spring cup rotate the operating rod spring cup until it fully seats against the barrel nut.
2. When reinstalling the intermediate rod ensure that the operating rod is depressed firmly so that the operating rod spring is fully compressed.
3. When reinstalling the buffer and buffer spring push the buffer fully past the buffer detent and ensure it is captured behind the detent.
4. When reinstalling the carrier sear assembly first ensure the rear take down pin is all the way retracted to its second slot. Replace the carrier sear assembly and maintain downward pressure while simultaneously pushing the rear take down pin in and rotating clockwise to its first stop position.
5. When reinstalling the extractor, line up the holes by pressing firmly on the center of the extractor while reinstalling the extractor pin.
6. While reinstalling the firing pin retaining pin ensure the firing pin is fully forward and the firing pin retaining pin is installed from left to right when looking from the rear of the weapon.

7. When reinstalling the bolt carrier group, ensure that the bolt is fully extended and the charging handle is half way inserted prior to inserting the bolt carrier into the upper receiver.
8. When closing the upper and lower receiver rotate the lower receiver to the upper receiver until contact is made. Then push the rear take down pin all the way into the lower receiver.

4.0 Routine Operator's Maintenance:

Perform routine maintenance after each firing session or once daily while operating in normal field conditions. Ensure weapon is clear prior to performing any maintenance. When punching the weapon's bore pass the cleaning rod through the chamber end towards the muzzle.

1. Field-strip the weapon as detailed in Section 3.0.
2. Clean bore by punching first with a patch saturated in Simple Green or SLIP 2000 Carbon Killer. Punch bore with bore brush several times. Punch with a dry patch to remove carbon residue and cleaning solvent.
3. Check for cleanliness by punching with a clean patch. If necessary repeat above step until clean.
4. Wipe bolt carrier, charging handle, interior of upper receiver, buffer and buffer spring with a cloth (slightly dampened with cleaning solvent if available).
5. Scrub the face of the bolt with a GP brush dipped in cleaning solvent or CLP. Thoroughly wipe away any remaining cleaning solvent or CLP with a rag.
6. Apply a light coat of lubricant to the interior of the upper receiver, buffer spring, exterior of barrel, compensator and ejection port cover.
7. Apply point lubricant to the extractor, bolt cam pin, hammer pivot point, and trigger pivot point, charging handle latch, bolt catch, and carrier sear. (NOTE: Do not lubricate the face of the bolt.)
8. Reassemble weapon and perform functions check as detailed in Section 2.1.

4.1 Detailed Operator's Maintenance

Perform detailed maintenance every 2,000 rounds or once weekly while operating in normal field conditions. Ensure weapon is clear prior to performing any maintenance.

1. Detail disassemble weapon as described in Section 3.1.
2. Perform Routine maintenance as detailed in the previous section.
3. Scrub extractor with GP brush dipped in cleaning solvent or CLP. Pay particular attention to remove any built up brass deposits in the extractor groove. Thoroughly wipe away any remaining cleaning solvent or CLP with a rag.
4. Scrub bolt carrier, bolt body, firing pin and interior of the upper receiver with GP brush dipped in cleaning solvent or CLP. Punch firing pin hole and firing pin cavity with a pipe cleaner. Thoroughly wipe away any remaining cleaning solvent or CLP with a rag. Apply a moderate coat of lubricant to the inside of the bolt carrier where the bolt installs. Apply point lubrication to the extractor where the pin installs and the bolt cam pin when it is installed. Apply a light coat of lubricant to the interior of the upper receiver prior to re installing the charging handle and bolt carrier assembly.
5. Scrub gas piston nozzle with a dry brass wire brush. Thoroughly wipe away any remaining carbon residue with a rag (rag may be dampened in cleaning solvent). (NOTE: The gas piston nozzle should be completely dry before reassembling the weapon. Do not apply lubricants as this will cause fouling when fired).
6. Scrub the gas piston cup inside and out with a dry brass wire brush. If surface rust is present on the outside of the piston cup remove with a small amount of lubricant and a wire brush. Apply a light coat of lubricant to the outside of the piston cup and wipe off any excess lubricant or residue with a rag.

   (NOTE: As a general practice, do not introduce any lubricant into the inside of the piston cup as this may cause fouling when fired).

   If the weapon is to be stored for a longer period of time, place a light coating of CLP on the nozzle and reassemble. The user can wipe off the excess prior to firing. It is inconsequential to function if the user does not wipe off excess CLP prior to firing, but it may cause some smoke as the lubricant burns off with an aggressive firing schedule.
7. Scrub the intermediate rod, operating rod, operating rod spring and operating rod spring cup with GP brush dipped in cleaning solvent or CLP (these will be very clean to start with as they are not directly exposed to carbon). Thoroughly wipe away any remaining cleaning solvent or CLP with a rag. Apply a light coat of lubricant to the intermediate rod, operating rod, operating rod spring and operating rod spring cup.
8. Reassemble weapon and perform functions check as detailed in Section 2.1.

4.2 Maintenance Procedures for Adverse Climate Conditions

1. When operating in adverse environments LWRC Inc. recommends utilizing shoot through muzzle covers and gun covers (if tactical situation permits).
2. Pay particular attention that the ejection port cover is closed at all times when not firing your weapon. If weapons must be grounded stuff a rag into the magazine well.
3. In blowing sand or snow conditions conduct frequent functions checks of your weapon and take every opportunity to remove sand or snow from your weapon. A small paint brush is highly recommended for this task. Blow sand from weapon with compressed air if available.
4. Do not lubricate the interior of the upper receiver or exterior of the gas piston components when operating under field conditions in extremely sandy or snowy environments.
5. When performing routine maintenance remove the upper rail (hand guard on M6 model) and brush any sand or snow from the piston components.
6. Apply point lubrication as sparingly as possible.

4.3 Special Arctic Environment Considerations

1. Keep weapons at ambient outdoor temperature whenever possible and use an arctic rated lubricant.
2. If weapons must be brought into a warm area, allow weapons to warm up to the room temperature, detail disassemble and perform detailed maintenance. Pay particular attention to removing all condensation from weapon before going back into cold temperatures.
3. Even if weapons are kept outdoors, temperatures can fluctuate above and below freezing causing condensation to develop then freeze in the weapon's moving components. Perform frequent functions checks to ensure weapon is operable.
4. If weapon is dropped in the snow clean it immediately. At a minimum break the weapon down shotgun style and remove any snow from the upper receiver and bolt carrier. Clean snow from gas piston components.
5. If your weapon does freeze shut DO NOT FIRE IT to un-jam the weapon. Warm weapon with body heat or a camp stove (hold weapon at least eight inches above flame and remove magazine prior to warming) until un-jammed then clean or fire immediately.

4.4 Lubricants and Cleaners

The M6 Series is compatible with all standard U.S. Military and NATO specified small arms lubricants and cleaners. The manufacturer recommends SLIP 2000 EWL (extreme Weapons Lubricant for 1.0 oz tube). If changing from one lubricant to another clean off old lubricant by scrubbing parts with solvent, Simple Green or SLIP 2000 Carbon Killer.

Lubrication Terms:

Light Coat- A light coat of lubricant is not readily visible to the eye. Apply lubricant and wipe off excess with a clean cloth.

Moderate Coat- A moderate coat of lubricant should be just visible to the eye. Apply lubricant directly to part and spread or apply with a brush, cloth or finger.

Point Lubrication- Lubrication applied to pivot points or recessed parts. Apply a couple of drops to the pivot point and work part back and forth to distribute lubricant.

4.5 Rail Maintenance and Notes

1. There is no required rail maintenance other than protecting the Picatinny rail sections that remain exposed to damage with a rail or ladder panel. The ARM-R rails are set up to use USGI issue rail panels by Knight's Manufacturing. Any Picatinny 1913 standard rail panel will work.
2. The 4 rail retaining screws are factory torqued to 40 inch pounds. The Heli-coils in the rail clamp have a locking feature that prevents these screws from loosening off. It is not advised that you remove the screws unless you have significant reason to do so. If you do remove them, install the rail ensuring the picatinny rail on the rail clamp is butted up and aligns perfectly with the picatinny rail on the receiver. Apply red Loc-Tite to the degreased screws. Install tightening each screw finger tight then use a 9/64th's Allen wrench, and make one turn to each screw in a cross-hatch pattern until 40 inch pounds is reached. There should be no gaps between the rail clamp legs and the lower assembly of the rail system.
3. There are small C-Clips that make the pusher screw captive. In the rare event this becomes dislodged or lost, a standard C-Clip for an M16 ejection port rod can be used. With the top rail removed, screw in the pusher screw all the way. With needle nose pliers, install the C-Clip to the groove toward the nose of the pusher screw.
4. During normal use, the rail will become fouled with carbon and some copper residue from jacketed ammunition. If left to sit the copper will turn a blue/green color. This nothing to be concerned with. You can remove with a copper solvent. You should always inspect the inside of the top rail to ensure the fouling does not interfere with piston operation.

5.0 Trouble Shooting

NOTE: When shooting with a silencer or suppressor please note the following:

1. Follow Manufactures instructions for mounting/ dismounting suppressor and for care and use
2. Use suppressor design with same caliper of weapon
3. Ensure suppressor is firmly attached prior to use
4. Rate of fire shall increase
5. Gas/debris will increase
6. Weapon shall require an increase in lubrication and cleaning
7. Depending on suppressor design a heavier buffer and spring may be required for optimum performance.

Failure to Load	
CAUSE	CORRECTION
Bent/damage magazine feed lips or Worn/Weak magazine feed spring	Inspect magazine and replace as necessary
Worn out/under powered action spring	Replace spring
Under powered ammunition (Cause- Short Stroke)	Use SAMI or NATO Spec. Ammunition
Leading of feed ramps from use of Non-FMJ (Full Metal Jacket) ammunition	Disassemble and clean feed ramps and use jacketed ammunition

Failure to Lock	
CAUSE	CORRECTION
Wrong ammunition for chamber	Use proper SAMI/ NATO Spec. Ammunition
FOD (Foreign Object Detected) in chamber or barrel extension	Disassemble and clean rifle
Ammunition defective/damaged or out of specification	Inspect all ammunition prior to use and ensure SAMI/NATO compliant
Weak/worn action spring	Replace spring

Failure to Fire	
CAUSE	CORRECTION
Defective ammunition/dead primer	Inspect all ammunition prior to use and ensure SAMI/NATO compliant
Broken/weaken hammer spring	Replace spring
FOD (Foreign Object Detected) in Pin Channel (Fire Control Group)	Disassemble and clean
Worn Firing Pin	Replace firing pin

Failure to Extract	
CAUSE	CORRECTION
Worn/Broken extractor/spring	Replace extractor/spring
Corroded/Out of specification ammunition	Inspect all ammunition prior to use and ensure SAMI/NATO compliant
Worn or damaged piston return spring	Replace piston operational rod spring
Torn case rim	Defective ammunition or dirty chamber – clean chamber and inspect ammunition

Failure to Eject	
CAUSE	CORRECTION
Worn ejector spring	Replace spring (May require gunsmith/ Armorer)
Short stroke/Double feed	Inspect all ammunition prior to use and ensure SAMI/NATO compliant

Failure to Cock	
CAUSE	CORRECTION
Worn disconnector &/or spring	Replace disconnector or spring
Worn hammer &/or spring	Replace hammer &/or spring
Worn trigger &/or spring	Replace trigger &/or spring
FOD (Foreign Object Detected) lodged in Fire Control Group	Disassemble and clean rifle

Warranty

LWRC International products are warranted to be free from defective material and workmanship for a period of two years from the date of delivery to the original purchaser.

LWRC International obligation under this warranty shall be limited to (1) repairing or (2) replacing any product upon inspection at LWRC International and based on its discretion, is found to defective in material or in workmanship. This warranty is limited and does not extend to: careless handling, abuse and misuse, unauthorized adjustments or modifications, use of improper ammunition, excessive or unreasonable use, ordinary wear & tear, rust or corrosion, and barrel obstruction. Repairs are warranted for the duration of the original warranty and apply only to factory built products.

Exclusive Remedy: The remedies in this section and in the warranty agreement constitute the sole and exclusive remedies of any authorized customer, as well as its successors and assigns, for any defect in the product.

Disclaimer: The warranty stated in this agreement is the sole and exclusive warranty pertaining to the product. LWRC International disclaims any warranty express or implied, including, without limitation, any warranty of merchantability or fitness for a particular purpose. In no event shall LWRC International , LLC be responsible for any indirect, incidental or consequential damages including, without limitations, lost profits, costs of delay, with respect to economic loss or injury to property or to third parties, whether as a result of breach of express or implied warranty, negligence or otherwise.

Prior to returning any LWRC International product for warranty work, you must receive return material authorization (RMA) from our customer service department. The contact information is shown below. Items must be returned prepaid to the address shown below. LWRC International, LLC accepts no responsibility for items lost or damaged in shipping. Items that are returned and found to be Out-of -Warranty will be repaired at the customer's expense; however, no work will be performed without the customer's written authorization.

Note: The information mentioned herein is valid for duration of 90 days.

Notes

M6 Series Patents Pending

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